



The Effect of Chewing Gum on Acceleration of hospitalized time stay among Post-Cesarean Section Patients At Kendari City Hospital

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Abstract. Cesarean section (CS) is the most significant surgical intervention that affects the central nervous system and slows down the bowel movement after CS. Intervention in the early period after CS is needed to improved bowel function. This study aimed to determine the effect of chewing gum on the acceleration of hospitalized time among post-cesarean section patients at Dewi Sartika Public Hospital. This quasi-experimental study was conducted with 72 patients divided into two groups of such as 36 for the intervention group, and 36 were the control group at Dewi Sartika Public Hospital. For data analysis, A paired T-test was used to describe the mean difference before and after receiving the intervention among the intervention group and the control group. After the 3-day intervention, there was a significant acceleration of hospitalization time in the intervention group ($P < 0.05$) compared to before the intervention. Chewing gum is an effective intervention in accelerating the number of days of stay in post-cesarean section patients.

Keywords: cesarean section, chewing gum, days of stay



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INTRODUCTION

Section Caesarea is one of the significant abdominal surgeries directly related to post-operative changes in the autonomic nervous system. It causes a decrease in bowel movements and results in several problems (1). Potential complications in post-Sectio Caesarea patients including paralytic ileus, atelectasis, infection wounds, urinary retention, and urinary tract infections (2).

Labor with cesarean section prevalence is around 10-15% of all labor processes (2). In Indonesia, the delivery rate with Sectio Caesarea reached 9.8%, and in Yogyakarta, the

prevalence of labor with Sectio Caesarea reached 15%. This prevalence was relatively high, seeing that the highest majority occurred in Jakarta at 19.9% (3).

During the Post-operative process, providing anesthesia to patients can slow gastrointestinal motility among patients (4). The average peristaltic loss for 24 to 48 hours, depending on the type and duration of surgery. It was due to anesthesia providing resistance to nerve stimulation for peristalsis, thus giving several effects, including abdominal distension (bloating or pain) and even paralytic ileus (Berikan Stasi). Feelings of discomfort in the stomach would cause anorexia (decreased appetite), which impacts if this happens, then the nutritional intake for patients is not fulfilled (5). This condition will inhibit the recovery of the patient's condition and the wound healing process, which requires greater nutrition than average or before the illness (6). According to Potter PA, Perry AG (4), intestinal function in women undergoing section caesarian surgery is essential starting early. Interventions have been tested to improve non-pharmacological good intestinal peristalsis is chewing gum (7).

Revealed intestinal motility after cesarean section surgery can be accelerated by chewing gum, a useful, inexpensive, and well-tolerated method (8). Revealing gum chewing is a physiological, safe, and effective method for reducing time to regain bowel movements post-section caesarian (1). The accelerated return of normal gastrointestinal function in women after section Caesarea will be beneficial in patients' recovery. The oral intake will be sufficient so that it responds positively to meet the patient's nutritional needs will also help speed up the recovery process so that the number of days of hospitalization in the sick rash can be faster (8).

OBJECTIVE

This study aimed to explain the effect of chewing gum on the acceleration of the number 3 of days of stay hospitalized time among post-cesarean section patients.

METHOD

This study applied the quasi-experimental design used a pre-test and post-test quasi-experimental design with a non-equivalent control group. The total A sample of 72 post-cesarean section patients were as divided into two groups such as 36 groups of chewing gum intervention group and 36 groups for of control groups. The sampling technique uses Non-Probability Sampling, a consecutive sampling type. Inclusion criteria namely for selecting the samples including; 1) conscious patients (Compos mentis), 2) age between 20-40 years, 3) post-partum, first-time cesarean section patients, elective cesarean section patients, and post-cesarean section patients under spinal anesthesia. Patients were unmet with the criteria would be excluded following exclusion criteria: Patients who had a history of diseases such as hypothyroidism and neurological disorders, patients with a history of abdominal surgery other than cesarean section, patients who had a history of gastrointestinal disorders due to delivery, and patients with the inability to intervene.

The intervention in this study was chewing gum started after the patient knew the effects of anesthesia ($\pm$ 3 hours after cesarean section) in the recovery room / Post Room Anesthetic Care Unit (PACU) Dewi Sartika Kendari Hospital by chewing one xylitol candy (1.45 grams). For 5 minutes with a chewing frequency 30 times per 3 hours for up to 10 hours after cesarean section. Objective and subjective measurements were carried out before and after the intervention. The collected data were analyzed using paired t-test.

The research ethics committee approved this research of the Faculty of Nursing, Airlangga University, and the hospital where the research took place. All respondents were informed about the purpose of the study and agreed to their participation in the study.

RESULTS

Characteristic of respondents

Table 1. above shows the characteristics of respondents. More than half of the respondents were 20 - 30 years (66.7%). More than half of them also graduated from senior high school (55.6%). Regarding the occupation, most of the respondents were housewives (70.8%). The characteristic of indications for cesarean section, the highest number of respondents, was cephalopelvic disproportion as many as 42 respondents (58.3%).

Characteristics of Respondents		N	%
Age	20 - 30 years	48	66.7
	31 - 40 years	24	33.3
Education	Primary school	7	9.7
	Junior high school	10	13.9
	Senior High School	40	55.6
	Bachelor	15	20.8
	Housewife	51	70.8
work	Wirasuasta	9	12.5
	Government employees	10	13.9
	College student	2	2.8
	Cephalopelvic disproportion	42	58.3
	Breech location	22	30.6
Indication of Cesarean section	Location of Buttocks	3	4.2
	Big baby	5	6.9

The effect of chewing gum on the acceleration of hospitalized time in post-cesarean section

Table 2. effect of chewing gum on the acceleration of hospitalized time in post-cesarean section patients (n=72)

Variable	Intervention Group		Delta Δ	<i>p-value</i>
	Intervention Group	Control Group		
	Mean + SD	Mean + SD		
days of stay	2.92+0.280	3.67+0.926	0.75	0.000

*paired t-test for differences groups ($p < 0.05$)

Table 2 showed that the average number of hospitalized days in the chewing gum group was 2.92, with a standard deviation of 0.280. In contrast, the control group had 3.67 days of hospitalization with a standard deviation of 0.926. The chewing gum group experienced a difference in the number of hospitalized days 0.75 of the control group m. After testing the data analysis using a paired test ($\alpha 0.05$) in the chewing gum group, it was obtained $p = 0.000$, which means that chewing gum affected the number of days of stay in post-cesarean section patients at Dewi Sartika Kendari Hospital.

DISCUSSION

The results showed that the average number of hospitalized days in the chewing gum group was 2.92, with a standard deviation of 0.280. In contrast, the control group had 3.67 days of hospitalization with a standard deviation of 0.926. The chewing gum group experienced a difference in the number of hospitalized days 0.75 of the control group m.

The chewing activity (mastication) involves the teeth and the periodontal tissue, which consists of two soft tissues, the gum and periodontal ligament, and two limestone tissues, dental cementum and alveolar bone. The movement of the jaw requires the activity of the masticatory muscles and the temporomandibular joint. Consequently, if the mastication process stimulates intestinal motility, such as increased gastric secretion, motor activity can also involve some parts of the oral structure (9).

Chewing gum can cause mechanical and chemical stimuli, which can increase salivary secretion, flow rate, decrease viscosity, and raise pH (10). chewing gum for 5 minutes with a frequency of 30-32 times can increase salivary secretion in quantity and quantity. Increased salivary secretion leads to increased volume and dilutes saliva, which is required for ingestion and lubrication. Increasing salivary secretion also increases the amount and composition of saliva, such as bicarbonate which can increase pH (11).

Chewing gum in post-cesarean section patients is a non-pharmacological therapy that can improve intestinal peristalsis and is well tolerated and safe in cesarean section (12). This is in line with research Andi Herman chewing gum is a method that is cheap, practical, and physiological in improving restoration of bowel function and easily tolerated without complications (13). Chewing gum in post-cesarean section patients is a non-pharmacological therapy that can enhance intestinal peristalsis and is well accepted and safe in cesarean section (14). chewing gum is a cheap, practical, and physiological method in improving bowel function recovery and is easily tolerated without complications (15). The gum intervention is well-tolerated, improving the initial recovery of bowel function post-cesarean section (16). chewing post-cesarean gum is a noninvasive/non-pharmacological intervention for reactivating bowel movements (10). Chewing gum in the post-operative period immediately after cesarean delivery can reduce gastrointestinal complications and restore gastrointestinal function more quickly (6).

Chewing gum has been a new and simple way to reduce and prevent post-operative ileus (17). This acts by stimulating intestinal motility through the cephalic vagal reflex and by increasing gastrointestinal hormone production associated with intestinal motility (18,19). The movement of the jaw, as needed, requires the activity of the muscles of mastication and the temporomandibular joint (20). As a result, if the mastication process stimulates intestinal motility, such as increased gastric secretion, some parts of the oral structure can also be involved by motor activity (18)

CONCLUSION

Chewing gum can speed up the number of days a patient has a cesarean section. Based on these findings, the nursing profession can use chewing gum as an independent nursing intervention because it is easy and safe.

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